

Applicant: Friedrich BOECKING
Docket No. R.305744
Preliminary Amdt.

NEW ABSTRACT:

Please replace the original abstract with the following new abstract:

Abstract of the Disclosure

A fuel injection apparatus for supplying fuel to an injection valve from a high pressure line includes a control valve controlling pressure in a control chamber connected to the line and an actuator for moving a valve member to actuate via a hydraulic coupler having two pistons acting on a coupler volume, the seat of the valve member having a cross-sectional area f_3 for filling the coupler volume with pressurized fuel via guidance gaps of the pistons. The pistons are guided one inside the other and a booster chamber at the ends of the pistons is oriented toward the actuator. A filling chamber inside the outer piston is connected to the line and one piston having a cross-sectional area f_4 is mechanically coupled to the actuator by a rod with a cross-sectional area f_5 ; the other piston has a piston area f_2 , and actuates the control valve via a second rod having a cross-sectional area f_1 smaller than f_2 . The direction of the opening movement of the valve member coincides with the direction of fuel flowing out of the control chamber so that the control valve is at least partially force-balanced due to the pressure acting on the additional piston in the booster chamber.